REMARKS

Applicant respectfully requests reconsideration of this application as amended.

Claims 1-15 and 17-20 are pending in the application. Claims 1-15 and 17-20 have been rejected.

Claims 1, 6, 11, 17, and 18 have been amended. The amended claims are supported by the specification. Claims 3, 8, and 13 have been currently canceled.

Applicant reserves all rights with respect to the applicability of the doctrine of equivalents.

Claims 1, 6, 11, 17, and 18 have been objected to because of informalities. The Examiner indicates that claims 1, 6, 11, and 17 have an insufficient antecedent basis for the limitation "the ATM Q.2931 layer."

Claims 1, 6, 11, and 17 have been amended by replacing the limitation "the ATM Q.2931 layer" with the limitation "an ATM Q.2931 layer." Given the sufficient antecedent basis for amended claims 1, 6, 11, and 17, applicant respectfully requests withdrawal of the objection of claims 1, 6, 11, and 17.

The Examiner indicates that claims 17 and 18 have an insufficient antecedent basis for the limitation "the call."

Claims 17 and 18 have been amended by replacing the limitation "the call" with the limitation "the voice call." Given the sufficient antecedent basis for the limitation "the voice call" based on the limitation "a voice call" in line 7 of claim

17, applicant respectfully requests withdrawal of the objection of claims 17 and 18.

Claims 11 has been rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Specifically, the Examiner indicates that "a computer readable medium" in claim 11 is essentially a "propagated digital signal" in light of paragraph [0022] of the specification.

Claim 11, as amended, recites in the preamble "A computer-readable storage device having stored thereon a plurality of instructions..." (Emphasis added). Support for a computer-readable storage device can be found throughout the specification including paragraph [0022] which recites that "[t]he software implementing the present invention can be stored in RAM 325, a mass storage device available through disk interface, or other storage medium accessible to CPU 310." The specification does not define a storage device as including a propagated digital signal. One of ordinary skill in the art of communications networking would not consider a propagated digital signal to be a type of storage device. It is submitted that a propagated digital signal is not a type of storage device. Given the amendment to claim 11, it respectfully submitted that claim 11 is directed to statutory subject matter. Accordingly, applicant requests the withdrawal of the rejection to claim 11 under 35 U.S.C. § 101.

Claims 1-15 and 17-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,760,335 of Andersson et al.

("Andersson") in view of U.S. Patent No. 6,366,580 of Bradley et al. ("Bradley") and U.S. Patent No. 6,182,193 of Hamami et al. ("Hamami").

It is submitted that claim 1, as amended, is patentable over the cited references. Amended claim 1 reads as follows.

> In a digital communications network, a method comprising:
> checking a multiplexed connection's bandwidth capacity to carry a call over a link;
> overflowing the call onto a non-multiplexed connection without sending the call onto the multiplexed connection, when the multiplexing connection's bandwidth is insufficient to carry the call;and
> presenting the call to an ATM Q.2931 layer if the multiplexing connection's bandwidth is insufficient to carry the call, wherein overflowing the call includes adding a single non-multiplexed connection over the link per call; transmitting the call over the non-multiplexed connection; and tearing down the single non-multiplexed connection once the call is completed.

The Office Action states that Andersson does not explicitly disclose a non-multiplexed connection. (Office Action, 02/21/07, page 7). Applicant agrees that Andersson does not disclose a non-multiplexed connection.

Andersson discloses determining whether AAL2 multiplexor and/or demultiplexor resources are lacking and/or excessive relating to a particular AAL2 signaling relation between first and second nodes during network operation. (Andersson, col. 4, lines 27-30). Andersson also discloses adding or removing at least one AAL2 multiplexor and/or demultiplexor based on the above determination. (Andersson, col. 4, lines 31-35).

Andersson also discloses the following:

> Given the above assumptions, FIG. 8 illustrates how the system determines whether to add a new mux(es) to a signaling relation 52 based upon whether there is detected a lack of AAL2 mux resources

for a particular relation 52. This determination/detection process may take place, for example, whenever an AAL2 SE starts and there are no AAL2 muxes in the AAL2 signaling relation and/or after each establishment of a new AAL2 connection in the AAL2 signaling relation 52. Thus, in step 50 it is determined whether or not a new AAL2 connection has just been established or whether an AAL2 SE is starting with no AAL2 mux(es) in the signaling relation. If the answer to both of these determinations is no, then the process will not continue further and step 50 will be repeated until the answer to one of the queries is yes. When the answer to one of the step 50 queries is yes, the process proceeds on to step 52 where the amount of available resources (AR) in the applicable total AAL2 mux group of the AAL2 signaling relation 52 is determined. This determination may be made by the master AAL2 SE in the AAL2 signaling relation, for example. Once, AR has been determined, in step 54 it is determined whether or not AR is less than (or no greater than) "Y" percent (%) of the resources that an AAL2 mux 40 provides (e.g., "Y" may be 5-50%, more preferably from about 10-40%, and most preferably from about 15--25% (e.g., 20%) in certain embodiments of this invention). If not, then no new mux is added and the process goes back to step 50.

If AR is less than "Y" in step 54, then the master AAL2 SE examines if it already has an AAL2 mux that is taken out of service but still reserved for the signaling relation; in that case it should take this AAL2 mux in service instead of reserving a new mux and establishing a new AAL2 path (an AAL2 mux that is taken out of service may be able to provide available resources that makes AR greater than "Y" when taken in service, due to the fact that when an AAL2 mux is taken out of service it is at that moment the AAL2 mux that has the greatest amount of resources free for allocation in certain exemplary embodiments, i.e., at least resources for one AAL2 connection is likely free). If AR is less than "Y" in step 54, and no AAL2 mux out of service is reserved for the relation, then in step 56 a new AAL2 mux (40a or 40b) is added to the signaling relation 52 (this new mux may be added directly to the relation 52, or alternatively may be made available in the relevant mux pool of the relevant AAL2 SE). Preferably, in step 56 a new AAL2 path is added to the relevant AAL2 signaling relation 52 as shown in FIG. 6 and described above, in response to a "yes" answer to the step 54 inquiry.
(Andersson, col. 10, lines 13-40).

Andersson discloses determining if a new AAL2 connection has just been established or whether an AAL2 SE is starting with no AAL2 mux(es) in the signaling relation prior to determining if the amount of available resources (AR) in

the applicable total AAL2 mux group of the AAL2 signaling relation 52 is less than Y (e.g., preferably 20%). If the amount of AR is less than Y, then a new mux and new AAL2 path will be reserved if an existing AAL2 mux reserved but not in service is not available. Thus, Andersson discloses potentially adding a new AAL2 multiplexed path if no mux exists in the signaling relation or if an new AAL2 connection is established over an existing multiplexed connection. Andersson sends a new call onto an existing multiplexed connection prior to determining if a new AAL2 multiplexed path is needed based on the AR. Andersson reactively determines the AR after a new call has been established over an existing multiplexed connection.

In contrast, Andersson does not disclose or teach overflowing a call onto a non-multiplexed connection without sending the call on the multiplexed connection. Andersson does not disclose or teach presenting an overflow call to an ATM Q.2931 layer. Andersson also does not disclose or teach the limitations "overflowing the call includes adding a single non-multiplexed connection over the link per call; transmitting the call over the non-multiplexed connection; and tearing down the single non-multiplexed connection once the call is completed" as recited in amended claim 1.

Therefore, Andersson does not disclose or suggest the limitations stated in claim 1.

Bradley reads as follows.

> Switch 10, in response to an incoming voice telephone call, initiates an ATM switch virtual circuit (SVC) to switch 20. In setting up this connection, switch 10 passes to switch 20 information that tells switch 20 that this is an initial connection for the call together with an

> identifier for the connection. The identifier can be encoded in a standard ITU SET UP message in a variety of ways, using information elements ("IE") such as Broadband Lower Layer Information ("BLLI"), Generic Information Transport ("GIT") and User-to-User ("UU"). In setting up the call, switch 10 allocates 64 Kbps of bandwidth to the connection. For the purposes of this patent, the initial connection is referred to as "SVC 1".
>
> In the middle of the call, after detecting that the call is a voice call and not a fax call, switch 10 may decide to change the traffic descriptor of the SVC, from, for example, 64 Kbps to 16 Kbps so that the voice call is compressed. In another embodiment, switch 20 instead of switch 10 may decide to change the traffic descriptor. In the present invention, switch 10 accomplishes this by placing another SVC (referred to for the purposes of this patent as "SVC 2") with the desired traffic descriptor to switch 20, and then switching the traffic over to SVC 2. After switching over the traffic, switch 10 will then tear down SVC 1. The present invention executes this switch-over quickly and harmoniously, without interrupting service.

(Bradley, col. 3, lines 33-60).

Bradley discloses a method of changing the characteristics of telephone call data on an ATM network that is initially transmitted via a first SVC between a first ATM switch and a second ATM switch. The call is switched to a second SVC with the first SVC then being torn down.

In contrast, Bradley does not disclose or teach overflowing a call onto a non-multiplexed connection without sending the call on the multiplexed connection. Applicant agrees with the Examiner regarding Bradley not disclosing or teaching the presenting of an overflow call to an ATM Q.2931 layer. Bradley also does not disclose or teach the limitations "overflowing the call includes adding a single non-multiplexed connection over the link per call; transmitting the call over the non-multiplexed connection; and tearing down the single non-multiplexed connection once the call is completed" as recited in amended claim

1 because Bradley teaches establishing a call on the first SVC, switching to the second SVC, and then tearing down the first SVC.

Therefore, Bradley does not disclose or suggest the limitations stated in claim 1.

Hamami discloses a signaling cache suitable for use in networks, such as ATM networks, that utilize signaling in establishing calls. The invention functions to greatly reduce the amount of call processing required for calls that have been previously received and processed by the switch. The signaling cache can be implemented on each switch in the network to reduce the processing requirements network wide. Each switch along the call route functions to perform signaling processing only once for each unique call request. The results of the signaling processing are stored in a cache memory to enable re-use in the event a call request is receive that matches a previously received and processed call request. (Hamami, Abstract). Hamami also discloses that the Q.2931 standard is responsible for building the signaling messages that are transmitted over the network. (Hamami, col. 5, lines 42-45).

In contrast, Hamami does not disclose or teach overflowing a call onto a non-multiplexed connection without sending the call on the multiplexed connection. Hamami does not disclose or teach the presenting of an overflow call to an ATM Q.2931 layer. Hamami also does not disclose or teach the limitations "overflowing the call includes adding a single non-multiplexed connection over the link per call; transmitting the call over the non-multiplexed

connection; and tearing down the single non-multiplexed connection once the call is completed" as recited in amended claim 1.

It is respectfully submitted that Andersson does not suggest a combination with Bradley, and Bradley does not suggest a combination with Andersson because Bradley teaches away from multiplexing multiple channels onto a single SVC as taught by Andersson. It would be impermissible hindsight to combine Andersson with Bradley based on applicant's own disclosure.

It is respectfully submitted that Andersson does not suggest a combination with Hamami, and Hamami does not suggest a combination with Andersson because Hamami teaches away from the Q.2630.1 signaling standard for setting up and releasing switched AAL2 connections as taught by Andersson. It would be impermissible hindsight to combine Andersson with Hamami based on applicant's own disclosure.

Furthermore, even if Andersson, Bradley, and Hamami were combined, such a combination would lack at least the following limitations of amended claim 1.

> overflowing the call onto a non-multiplexed connection without sending the call onto the multiplexed connection, when the multiplexing connection's bandwidth is insufficient to carry the call;and
> presenting the call to an ATM Q.2931 layer if the multiplexing connection's bandwidth is insufficient to carry the call, wherein overflowing the call includes adding a single non-multiplexed connection over the link per call; transmitting the call over the non-multiplexed connection; and tearing down the single non-multiplexed connection once the call is completed.

Therefore, in view of the above distinction, neither Bradley nor Andersson nor Hamami, individually or in combination, disclose each and every limitation of amended claim 1.

Claims 6, 11, and 17 contain similar limitations but not identical compared to the limitations of claim 1. For similar reasons, independent claims 6, 11, and 17 are not rendered obvious by Andersson in view of Bradley and Hamami under 35 U.S.C. § 103(a).

Given that claims 2, 4, 5, 7, 9,10, 12, 14, 15, and 18-20 depend from a respective one of the independent claims 1, 6, 11, and 17, it is submitted that claims 2, 4, 5, 7, 9,10, 12, 14, 15, and 18-20 are also patentable over the cited references.

In view of the foregoing amendments and remarks, applicant respectfully submits that all of the rejections and objections have been overcome.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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Dated: May 21, 2007

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